What is claimed is:

1   1. A system to monitor performance, comprising:

2   at least one probe to collect data related to performance of an associated

3   domain; and

4   at least one base station to receive data from associated ones of the at least

5   one probe.

1   2. The system of claim 1, wherein the at least one probe comprises a system probe

2   to gather at least one of operating system data, network data and performance data related

3   to operation of an associated host processor.

1   3. The system of claim 2 wherein the system probe comprises a data structure to

2   gather kernel data.

1   4. The system of claim 3, wherein the system probe comprises a data structure to

2   gather data in a single process address by taking a snapshot of a kernel image at a selected

3   time interval and to categorize the data.

1   5. The system of claim 2, wherein the system probe comprises a Java Native

2   Interface to gather data.

1   6. The system of claim 2, wherein the system probe transmits data to an associated

2   base station using Transmission Control Protocol.

1   7. The system of claim 2, wherein the at least one base station transmits signals to

2   an associated system probe using User Datagram Protocol.

1   8. The system of claim 1, wherein the at least one probe comprises at least one

2   application probe associated with an application.

1   9. The system of claim 8, wherein each application probe and an associated base

2 station communicate using User Datagram Protocol.

1   10. The system of claim 8, further comprising a queue to store data collected by

2 the at least one application probe until transferred to an associated base station.

1   11. The system of claim 10, wherein the queue comprises a circular queue of a

2 predetermined capacity.

1   12. The system of claim 10, wherein the base station comprises a data structure to

2 request transfer of any data stored in the queue and any data is transferred during time

3 periods of internal host processor resource utilization that is below a predetermined level.

1   13. The system of claim 10, further comprising a Java Virtual Machine on which

2 the queue resides.

1   14. The system of claim 10, wherein the stored data is transferred to the base

2 station on a low priority thread relative to normal operations of a host processor.

1   15. The system of claim 1, wherein each probe is dynamically controlled by an

2 associated base station using User Datagram Protocol.

1   16. The system of claim 1, wherein each probe is dynamically controlled to alter at

2 least a type of performance data being collected and a frequency at which the data is being

3 collected without affecting operation of the associated domain.

1   17. The system of claim 1, wherein each probe comprises a control module

2 including user selectable parameters for controlling operation of each probe.

1   18. The system of claim 17, wherein the base station comprises a copy of the

2   control module associated with each probe served by the base station, wherein the control

3   module and copy are updated each time a user selects a new parameter.

1   19. The system of claim 1, wherein the base station comprises a data structure to

2   periodically ping each probe served by the base station to check a status of the probe and

3   wherein the probe transmits its current control module information in response to the ping.

1   20. The system of claim 1, further comprising performance gathering code in a

2   source code or a byte code associated with each domain to be monitored by an associated

3   one of the at least one probe.

1   21. The system of claim 1, wherein the at least one probe comprises a network

2   probe associated with each host processor to gather network data.

1   22. The system of claim 1, wherein the at least one probe comprises a data

2   structure written in a Java® programming language.

1   23. The system of claim 1, wherein the base station comprises a data collector to

2   collect data from the at least one probe.

1   24. The system of claim 23, further comprising at least one relational database to

2   store data from the data collector.

1   25. The system of claim 24, wherein the collected data is stored in relation to a

2   time interval in the at least one relational database.

1.   26. The system of claim 1, further comprising:

2   a plurality of base stations; and

3   a negotiator to balance a quantity of probes served by each base station.

1   27. The system of claim 1, further comprising a plurality of base stations, wherein

2   each base station comprises a probe table and wherein the probe table includes a list of

3   probe identifications and an associated probe control module for each probe served by the

4   base station.

1   28. The system of claim 1, further comprising:

2   a server to interface between a browser and the at least one base station;

3   and

4   a data structure to run on the server to retrieve and display selected data in

5   response to a query.

1   29. The system of claim 28, further comprising an interoperable naming service to

2   register each base station and to assign a unique identifier associated with each base

3   station in response to the base station becoming active.

1   30. The system of claim 28, further comprising a probes application to run on the

2   server to control operation of the at least one probe and to retrieve and display the selected

3   data from collected data in response to the query.

1   31. The system of claim 30, wherein the probes application runs on a Java Server

2   Page (JSP) engine.

1   32. The system of claim 28, further comprising a file to store predetermined

2   queries to retrieve selected data from the collected data.

1   33. The system of claim 32, wherein the file comprises predetermined structured

2   query language (SQL) queries to retrieve the selected data from a relational database.

1   34. The system of claim 32, wherein the file comprises predetermined mark-up

2   language queries to retrieve the selected data from a relational database.

1   35. The system of claim 32, further comprising a data structure to substitute

2   parameters entered by a user into a chosen query to retrieve the selected data.

1   36. The system of claim 32, further comprising a data structure to provide a link

2   on a web page to a universal resource locator containing a path to a chosen query in the

3   file in response to parameters selected or entered by a user on the web page.

1   37. The system of claim 1, further comprising a data structure to display collected

2   data related to performance from one or more domains together.

1   38. The system of claim 1, further comprising a data structure to periodically

2   retrieve updated data related to performance for one or more domains and to display the

3   updated data.

1   39. The system of claim 38, further comprising an image streaming servlet to

2   display the updated data.

1   40. The system of claim 1, further comprising a data structure to select parameters

2   for retrieving data by the at least one probe.

1   41. The system of claim 40, wherein the parameters may be dynamically altered

2   without affecting operation of the associated domain.

1   42. The system of claim 1, wherein the at least one probe releases any resources

2   utilizable by the probe in response to the probe being unable to associate with the at least

3   one base station.

1   43. The system of claim 1, further comprising a plurality of probes each to collect

2   data related to performance of a different domain within a distributed enterprise system.

1   44. A system to monitor performance, comprising:

2   at least one probe of a plurality of probes to collect data related to

3   performance from each of a plurality of domains;

4   at least one base station to receive data from associated ones of the plurality

5   of probes and to control operation the probes associated with the base station;

6   at least one database to store the collected data; and

7   a server to interface between a browser and the at least one base station and

8   to retrieve and display selected data from the at least one database in response to a query.

1   45. The system of claim 44, further comprising a system probe associated with

2   each host processor domain to gather at least one of operating system data, network data

3   and performance data related to operation of the associated host processor.

1   46. The system of claim 45, wherein the system probe transmits data to an

2   associated base station using Transmission Control Protocol.

1   47. The system of claim 45, wherein the at least one base station transmits signals

2   to an associated system probe using User Datagram Protocol.

1   48. The system of claim 44, further comprising at least one application probe

2   associated with each application of a plurality of applications.

1   49. The system of claim 48, wherein each application probe and an associated

2   base station communicate using User Datagram Protocol.

1   50. The system of claim 48, further comprising a queue to store data collected by

2   the at least one application probe until transferred to an associated base station.

1   51. The system of claim 44, wherein each probe is dynamically controlled to alter

2   at least a type of performance data being collected and a frequency at which the data is

3   being collected without affecting operation of the associated domain.

1   52. The system of claim 44, wherein each probe comprises a control module

2   including user selectable parameters for controlling operation of each probe.

1   53. The system of claim 44, wherein the at least one base station comprises a data

2   collector to collect data from the at least one probe.

1   54. The system of claim 53, further comprising at least one relational database to

2   store data from the data collector.

1   55. The system of claim 54, wherein the data is stored with an associated time

2   stamp.

1   56. The system of claim 44, further comprising:

2   a plurality of base stations; and

3   a negotiator to balance a quantity of probes served by each base station.

1   57. The system of claim 44, further comprising a plurality of base stations,

2   wherein each base station comprises a probe table and wherein the probe table includes a

3   list of probe identifications and an associated probe control module for each probe served

4   by the base station.

1   58. The system of claim 44, further comprising:

2   a plurality of base stations; and

3   an interoperability naming service to register each base station and to

4   assign a unique identifier associated with each base station in response to the base station

5   becoming active to service probes.

1   59. The system of claim 44, further comprising a probes application to run on the

2   server to control operation of each of the probes and to display at least some of the

3   collected data.

1   60. The system of claim 44, further comprising a data structure to display at least

2   some of the collected data for different domains together for a common time period.

1   61. The system of claim 44, further comprising a file to store predetermined

2   queries to retrieve the selected data from the database for a predetermined time interval.

1   62. The system of claim 61, further comprising a data structure to substitute

2   parameters entered by a user into a chosen query to retrieve the selected data.

1   63. The system of claim 62, further comprising a data structure to display the

2   selected data over the predetermined time interval.

1   63. The system of claim 62, further comprising a data structure to periodically

2   retrieve updated data related to the query and to display the update data.

1   64. The system of claim 44, wherein each of the probes self-destructs and releases

2   any resources utilizable by the probe in response to the probe being unable to bootstrap to

3   an appropriate base station for a configuration of the probe.

1   65. A method to monitor performance, comprising:

2   collecting data related to performance of different domains in a system;

3   correlating the data collected from each of the different domains over a

4   common time period; and

5   displaying the data collected for selected ones of the different domains

6   together in relation to the common time period.

1   66. The method of claim 65, further comprising instrumenting each different

2   domain to be monitored.

1   67. The method of claim 66, wherein instrumenting comprises inserting

2   performance gathering code into one of source code or byte code of each of the different

3   domains to be monitored.

1   68. The method of claim 65, wherein collecting data comprises embedding at least

2   one probe in each domain to be monitored.

1   69. The method of claim 68, further comprising embedding a system probe into

2   each operating system to gather at least one of operating system data, network data and

3   performance data related to operation of a host processor on which the operating system is

4   operable.

1   70. The method of claim 69, wherein embedding the system probe comprises

2   providing the system probe in a Java® programming language.

1   71. The method of claim 68, further comprising embedding at least one

2   application probe in each application to gather data related to performance of the

3   application.

1   72. The method of claim 71, wherein embedding at least one application probe

2   comprises providing the at least one application probe in a Java® programming language.

1   73. The method of claim 65, further comprising starting an interoperable naming

2 service on a server in response to accessing a data structure on the server to monitor

3 performance of different domains in the system.

1   74. The method of claim 73, further comprising using a browser to access the data

2 structure.

1   75. The method of claim 73, further comprising starting at least one base station in

2 response to accessing the data structure.

1   76. The method of claim 75, further comprising:

2   registering each base station with the interoperable naming service; and

3   connecting each base station to at least one database.

1   77. The method of claim 65, further comprising:

2   activating a system probe in response to starting an associated operating

3 system on a host processor to collect at least one of operating system data, network data

4 and performance data related to operation of the associated host processor; and

5   activating at least one application probe in response to starting an

6 application associated with the at least one application probe to collect data related to

7 operation of the application.

1   78. The method of claim 77, further comprising searching for a negotiator by each

2 activated system probe and each activated application probe.

1   79. The method of claim 78, further comprising:

2   inactivating or self-destructing any probe in response to the probe not

3 receiving a response from a negotiator; and

4   releasing any resources associated with a inactivated or self-destructed

5 probe.

1   80. The method of claim 78, further comprising allocating a queue to store data

2   received from each application probe.

1   81. The method of claim 80, wherein allocating the queue comprises providing a

2   circular queue on a Java Virtual Machine.

1   82. The method of claim 81, wherein the Java Virtual Machine is operable on a

2   host processor on which the application associated with the at least one application probe

3   runs to collect data.

1   83. The method of claim 78, further comprising performing a handshaking

2   operation between each available base station and each activated probe in response to the

3   activated probe being associated with the base station.

1   84. The method of claim 78, further comprising storing a probe identifier and an

2   control module for each activated probe served by any available base station.

1   85. The method of claim 84, further comprising:

2   transmitting a status request signal form the base station to each probe

3   served by the base station at predetermined time intervals; and

4   transmitting a message from each probe corresponding to the probe's

5   control module in response to receiving the status request signal.

1   86. The method of claim 77, further comprising operating each of the probes in a

2   parallel mode on separate threads to gather performance data until operation is terminated.

1   87. The method of claim 77, wherein each system probe gathers data in a single

2   process address by taking a snapshot of a kernel image at a selected time interval.

1   88. The method of claim 77, further comprising transmitting data from each

2   system probe to an associated base station using Transmission Control Protocol.

1   89. The method of claim 77, further comprising transmitting signals from a base

2   station to each associated system probe using User Datagram Protocol.

1   90. The method of claim 77, further comprising balancing a quantity of probes

2   served between each of a plurality of base stations.

1   91. The method of claim 77, further comprising presenting a control page to a user

2   to dynamically control operation each probe without affecting operation of an associated

3   domain.

1   92. The method of claim 77, further comprising dynamically controlling a type of

2   performance data collected and frequency of collecting the performance data by each

3   probe without affecting operation of an associated domain.

1   93. The method of claim 65, further comprising accessing a probes application on

2   a server to start the probes application to retrieve performance data of different domains in

3   a system or network.

1   94. The method of claim 93, further comprising presenting at least one parameter

2   selection page for a user to select parameters related to performance of the different

3   domains.

1   95. The method of claim 94, wherein presenting the at least one parameter

2   selection page comprises presenting a form for the user to enter or select a time interval

3   over which performance data is desired.

1   96. The method of claim 94, wherein presenting the at least one parameter

2   selection page comprises presenting a form for the user to enter or select at least one host

3   or domain for which performance data is desired.

1   97. The method of claim 94, wherein presenting the at least one parameter

2   selection page comprises presenting a form for the user to enter or select at least one class

3   of performance data desired.

1   98. The method of claim 94, further comprising choosing an appropriate raw

2   query in response to the selected parameters.

1   99. The method of claim 98, further comprising substituting the selected

2   parameters into the raw query.

1   100. The method of claim 99, further comprising converting the raw query to a

2   structured query language (SQL) query.

1   101. The method of claim 99, further comprising executing the query on at least

2   one appropriate database to retrieve the performance data corresponding to the query.

1   102. The method of claim 101, further comprising presenting the results of the

2   query.

1   103. The method of claim 102, wherein presenting the results comprises

2   presenting performance data for multiple different domains together for the selected or

3   entered time interval.

1   104. The method of claim 102, wherein presenting the results comprises

2   presenting a graphical representation of the results.

1   105. The method of claim 104, further comprising updating the graphical

2 representation at predetermined time intervals.

1   106. The method of claim 105, wherein updating the graphical representation

2 comprises re-executing the query and re-drawing the graphical representation in response

3 to the new results.

1   107. A method to monitor performance, comprising:

2   accessing a probes application on a server via a browser to activate the

3 probes application;

4   presenting at least one parameter selection page for a user to select

5 parameters related to performance data in response to accessing the probes application;

6 and

7   retrieving performance data in response to the selected parameters.

1   108. The method of claim 107, further comprising choosing an appropriate query

2 in response to the selected parameters.

1   109. The method of claim 108, further comprising executing the query on at least

2 one database to retrieve the performance data corresponding to the query.

1   110. The method of claim 109, further comprising presenting the performance

2 data.

1   111. The method of claim 110, further comprising:

2   updating the performance data at predetermined time intervals by re-

3 executing the query; and

4   presenting the new performance data.

1   112. A computer-readable medium having computer-executable instructions for
2   performing a method, comprising:
3   collecting performance data for different domains in a system;
4   correlating the data collected from each of the different domains over a
5   common time period; and
6   displaying the data collected for selected ones of the different domains
7   together in relation to the common time period.

1   113. The computer-readable medium having computer-executable instructions for
2   performing the method of claim 112, further comprising:
3   activating a system probe in response to starting an associated operating
4   system on a host processor to collect at least one of operating system data, network data
5   and performance data related to operation of the associated host processor; and
6   activating at least one application probe in response to starting an
7   application associated with the at least one application probe to collect data related to
8   operation of the application.

1   114. The computer-readable medium having computer-executable instructions for
2   performing the method of claim 113, further comprising dynamically controlling a type of
3   performance data collected and frequency of collecting the performance data by each
4   probe without affecting operation of the associated domain.

1   115. The computer-readable medium having computer-executable instructions for
2   performing the method of claim 112, further comprising choosing an appropriate query in
3   response to parameters selected by a user to retrieve performance data from a database.

1   116. The computer-readable medium having computer-executable instructions for
2   performing the method of claim 115, further comprising:

3   updating the performance data at predetermined time intervals by re-

4   executing the query; and

5   presenting the new performance data retrieved.

1   117. A method of making a system to monitor performance, comprising:

2   embedding a plurality of probes, at least one probe being embedded with

3   each of a plurality of domains to collect performance data from the domain; and

4   providing at least one base station to receive data from associated ones of

5   the plurality of embedded probes.

1   118. The method of claim 117, wherein embedding the plurality of probes

2   comprises embedding a system probe in each host processor domain to gather at least one

3   of operating system data, network data and performance data related to operation of the

4   associated host processor.

1   119. The method of claim 117, wherein embedding the plurality of probes

2   comprises embedding at least one application probe in each application domain to collect

3   performance data related to operation of the application.

1   120. The method of claim 117, further comprising providing at least one database

2   to store the collected performance data.

1   121. The method of claim 120, further comprising providing a server to interface

2   between a browser and the at least one base station and to retrieve and display selected

3   data from the at least one database in response to a query.